
In utero hematopoietic cell transplantation for the treatment of congenital anomalies.

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Public Summary:

Scientific Abstract:

In utero hematopoietic cell transplantation (IUHCTx) is a promising strategy for the treatment of common hematopoietic disorders and for inducing immune tolerance in the fetus. Although the efficacy of IUHCTx has been demonstrated in multiple small and large animal models, the clinical application of this technique in humans has had limited success. Recent studies in mice have demonstrated that the maternal immune system plays a critical role in limiting engraftment in the fetus. This article reviews the therapeutic rationale of IUHCTx, potential barriers to its applications, and recent experimental strategies to improve its clinical success.

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